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AUTHOR Hintz, Marilyn; Ziegler, Jerry
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ABSTRACT

This resource package deals with elementary level mathematics in daily living, substituting newspapers as a refreshing change from mathematics texts. A total of 40 exercises are intended to provide review and reinforcement for skills previously taught in formal lessons. Skill or concept areas included are: reading large numbers; basic operations; averages; graphing; graphing, ratio percent; fractions; scientific notation; percentages; percentages, ratio; perimeter; area; percentages, area; problem solving; and review. Each exercise has a related newspaper section, such as sports, national news, classified and display advertising, business and finance, weather reports, selected articles, homes, or entertainment. (YP)

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Newspaper in Education

KITCHENER-WATERLOO
Record

That Figures

A Mathematics Resource Package For Intermediate Grades

By Marilyn Hintz
and Jerry Ziegler

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Revised 1986.

Foreword

Percentage discounts, sports scoreboards, housing prices and the stockmarket are only a few examples of mathematics at work. The many and varied uses are reflected in the pages of the press and students will appreciate the need for mathematics in daily living when newspapers are brought into the classroom.

The students will find this resource package a refreshing change from mathematics texts when they complete the activities using current newspapers.

The exercises are intended to provide review and reinforcement for skills previously taught in formal lessons. The teacher may select and duplicate suitable worksheets using the scope and sequence chart on page two.

In addition to the exercises provided, both teacher and student should watch for and utilize appropriate articles as they appear in the daily newspaper.

About the Authors

Marilyn Hintz was a classroom teacher in Waterloo County for four years prior to joining the Kitchener-Waterloo Record staff in 1975. As co-ordinator of Newspaper in Education she has conducted many workshops and seminars on using the newspaper as an instructional tool. She is co-author of: A News Beginning, a primary activity program, That's Life, a consumer education package and Effective Decision Making: A Survival Skill for Today's World, a program for intermediate and senior grades. In 1977 she implemented the Record's weekly children's page, Kids' Corner. She is currently living with her husband and daughter in Calgary, Alberta.

Jerry Ziegler, a grade 8 teacher in Waterloo County uses the newspaper extensively in his classroom. He has conducted several workshops for the Kitchener-Waterloo Record sharing his expertise in the area of Newspaper in Education. Jerry brings 18 years of experience as teacher and consultant to the writing of this program. He is co-author of That's Life, a consumer education package. He lives in New Hamburg with his wife and two children.

Special thanks are given to Anne Kendall for her assistance in the production of this package.

SCOPE AND SEQUENCE

Skill/Concept Area	Newspaper Section	Exercise Number
Reading Large Numbers	Total Newspaper	1
Basic Operations	National News	2
	Sports	3
	Classified and Display Advertising	4,5,6,7
	Business and Finance	8
Averages	Classified Advertising	9
Graphing	Weather Report	10,11
	Business and Finance	12,13
Graphing, Ratio Percent.	Classified Advertising	14
Fractions	Display Advertising	15
Scientific Notation	Classified Advertising	1,16
Percentages	Sports	17,18
	Display Advertising	19,20,21,22,23,24
	Total Newspaper	25
	Business and Finance	26
	Selected Article	27
Percentages, Ratio	Sports	28
Perimeter	Display Advertising	29
Area	Classified Advertising	30
	Homes	31
Percentages, Area	Entertainment	32
	First Newspaper Section	33
	Total Newspaper	34
Problem Solving	Selected Articles	35,36,37,38,39
Review	Total Newspaper	40

ANSWERS

Exercise: 3

1. a $57.00 b $29.50 c $141.25
2. Total winnings $258.00

Exercise: 8

1. a $156.80 b $ 20.80 c $1,038,750.00
   d $ 21.64 e $137.80

2. $1,039,087.04

4. a 72.57 pounds
   b 81.63 pounds
   c 4914 cvn francs
   d 714.29 francs
   e 307.69 marks
   f 283.49 francs
   g 144,404.33 lira
   h 7017.54 drachma
   i 5141.39 zloty
   j 5434.78 forint
   k 835.07 krona
   l 110.20 rubles

Exercise: 20

	Discount	Percentage Discount
1.	$1.36	31.26%
2.	$ .50	16.72%
3.	$ .73	20.98%
4.	$ .70	22.65%
5.	$ .69	23.15%

Exercise: 21

1. a $30.06 b $27.26 c $24.15
   d $32.76 e $25.12 f $28.87

Exercise: 22

1. a $11.37 b $19.20 c $20.97 d $ 9.53
   e $16.43 f $32.79 g $62.39 h $24.73
   i $56.99 j $22.63 k $8.99 l $16.49

Exercise: 28

1. Toronto 30.91%
   Calgary 44.64%
   Vancouver 38.18%

2. a $\frac{1244}{1326}$ or $\frac{622}{663}$
   b 93.43%
   c 55 games
   d 10.40 games

Exercise: 35

1. a $21.85 b $361.60
2. 1554.9%
3. There are eleven possible combinations of coins that will add up to $2.05 American coinage.

	$1	1	1									
Coin	50¢			3	2	2	1	1				
Value	25¢	3	1	1	3	1	5	3	7	5	3	1
	10¢	3	8	3	3	8	3	8	3	8	13	18
		Number of coins										

4. $24.60

Exercise: 36

1. 66.96 miles
2. a 517.17 miles b 11,126 minutes

Exercise: 37

1. 14.50 kilometres per hour
2. 1:58:11
3. 14.45 kilometres per hour

Exercise: 38

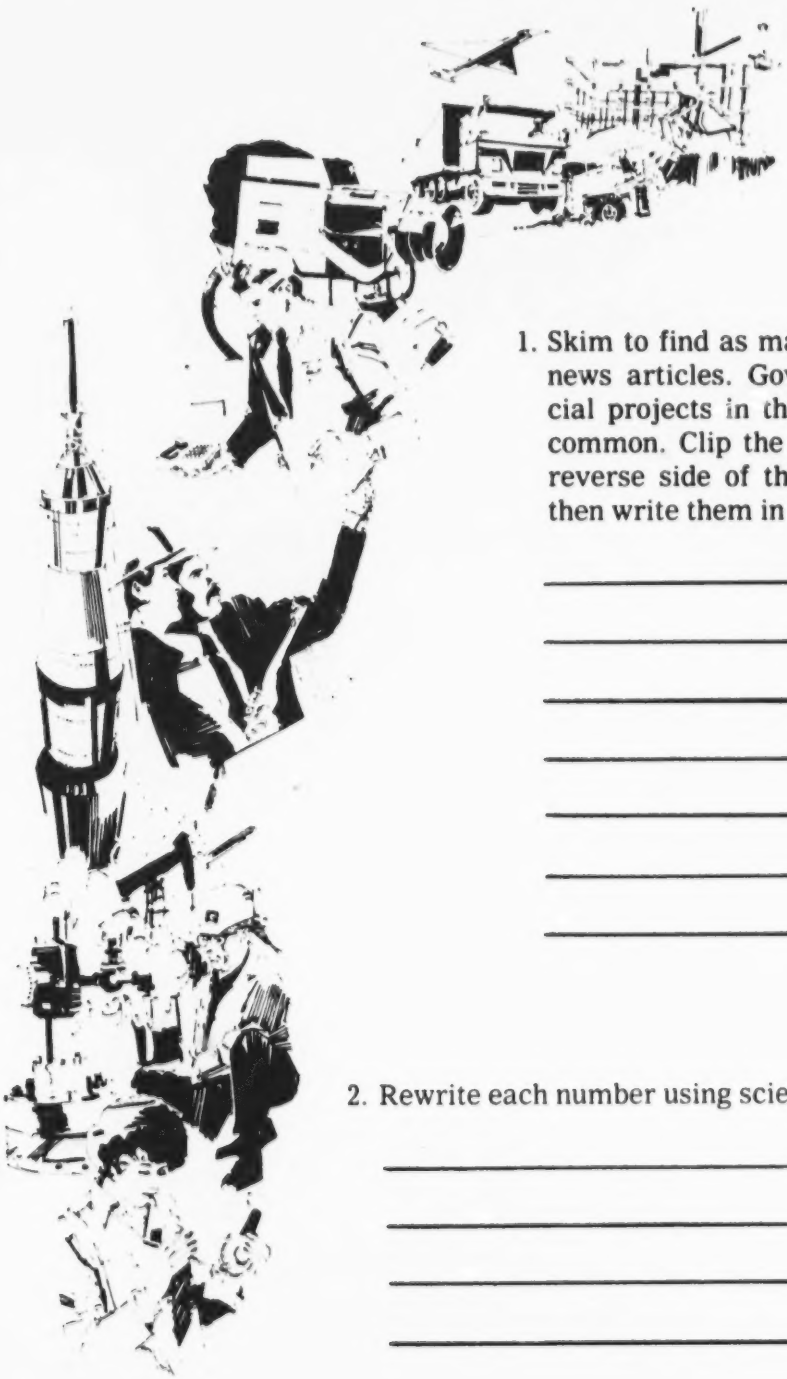
1. $48
2. $1.22
3. 155%

Exercise: 39

78.57 miles per day.

Exercise: 1

Newspaper Section: Total Newspaper



1. Skim to find as many large numbers as possible in news articles. Government expenditures and special projects in the millions and billions are quite common. Clip the articles and mount them on the reverse side of this page. Underline the numbers then write them in word form below.

_____

_____

_____

_____

_____

_____

_____

2. Rewrite each number using scientific notation.

_____

_____

_____

_____

_____

Exercise: 2

Newspaper Section: National News
Additional Materials: Atlas, Road Map

1. Select a news story which occurred further than 800 km (or 500 miles) from your community. Attach the article to the reverse side of this page. Calculate approximately how long it would take to drive from your community to that centre at an average of 100 kph (or 60 mph) following major highways. Show your work.

City: _____ Time: _____

2. How long would it take to drive "as the crow flies" (in a straight line) at the same speed? Show your work.

Time: _____

3. What is the difference between the two?

Answer: _____

To the Teacher:

After having students complete the exercise below, use the same procedure with current raceway results.

Exercise: 3

Newspaper Section: Sports

All prices quoted are for a $2.00 bet.

1. Calculate your winnings on the following horses or race:
   a) $10.00 on Very Sharp to win in the second
   b) $10.00 on Armbro Turk to show in the seventh
   c) $25.00 on the winner of the eighth race to win

_____

_____

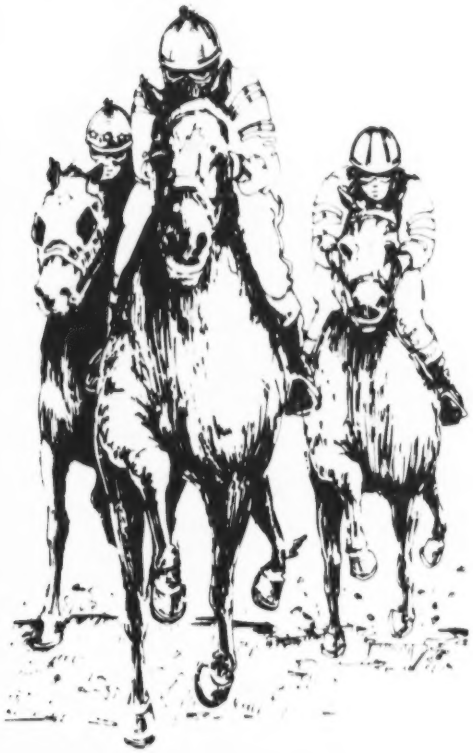
_____

_____

_____

_____

2. If you bet $10.00 to win on the first place horse in each of the remaining races, did you make or lose money and how much?



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Raceway Results

FIRST — $2,800, mile, pace

Torys Dream (Corbett)	8.50	3.90	2.50
Tactical (Strauss)		6.60	2.90
Scotts Wonder (Wellwood)			2.30

Time: 2:03 4-5

Also ran: Moorelands Sis, Baltimore Hanover, J. R. Gord, Leader Of The Pack, Braeside Maggie, Heritage Spring

SECOND — $3,200, mile, trot

Very Sharp (Legacy)	11.40	4.40	3.10
Kwik A Way (Nicholson)		3.80	2.90
Super Victory (Sharp)			2.90

Time: 2:05 1-5

Also ran: Jets Susan, True Fortune, Mitzy Maid, Christie Riddell, Meadow Doll, Byes Queen

Daily Double (2-1) paid $76.00

Quinella (1-2) paid $25.50

THIRD — $6,500, mile, pace

Merango Han. (Brown)	12.50	3.90	4.20
Omaha's Duke (Lester)		3.10	3.00
Bregman Hanover (Green)			8.00

Time: 2:00 4-5

Also ran: Armbro Song, Columbia Brooks, Senator Paint, Right Tune

Exactor (1-2) paid $37.10

FOURTH — $2,400, mile, pace

Bay Lady Frost (Gillis)	13.20	6.80	4.80
Coalhoun (Strauss)		7.30	4.60
Deil Of Dundee (Albrecht)			6.00

Time: 2:08

Also ran: Scotch Galore, H.T. Lamarre, Way House, Toss A Coin, Walter Hal

FIFTH — $9,000, mile, pace

Striking Force (Carroll)	3.80	2.70	2.10
Maple Lanes Strike (Davies)		3.20	2.10
Merry Isle (Waples)			2.10

Time: 2:00

Also ran: Hapton Hall, Noor Ferndale

Scratched: Happy Hangman.

Exactor (6-5) paid $8.50

SIXTH — $2,200, mile, pace

Fitz Filly (Wellwood)	13.60	6.40	3.70
Elgin Park (Waples)		5.20	4.10
Maxie Style (Oliver)			3.70

Time: 2:05 4-5

Also ran: Countess Trudy, Willie Mite N, Worthy Dee, Dela Dodger, T.V. Shiaway, Wil Lor Ginny

SEVENTH — $9,000, mile, pace

Wilton Royale (Carroll)	3.00	2.50	2.50
Glencoe L'Ami (Mayotte)		4.50	4.80
Armbro Turk (Gillis)			5.90

Time: 1:58 2-5

Also ran: Meadow Lite, Happy Hoot, Flame Of Freedom

Scratched: Sterl Hanover

Exactor: (6-2) paid $16.90

EIGHTH — $5,000, mile, pace

Miss Abbie Mac (Irvine)	11.30	5.50	4.50
Buckhaven (Coke)		5.90	4.90
Rapid Service (Corbett)			6.50

Time: 2:01 2-5

Also ran: Mr. Goldfinder, Easy McGregor, Alley J. Way, Kenwood Fair N., Ameego, Geeare N

Exercise: 4

Newspaper Section: Classified Advertising

1. Research to find out the cost of placing classified advertisments in your newspaper for one week. Clip out 8 ads and calculate the cost of each, assuming the scheduled time is one week.

1. Cost _____	5. Cost _____
2. Cost _____	6. Cost _____
3. Cost _____	7. Cost _____
4. Cost _____	8. Cost _____

2. What is the average cost of the advertisements selected?

_____

_____

To the teacher: Duplicate this and the following page so that each student has ten "cheques" and one cheque register. Newspapers containing grocery advertisements will also be required.

Exercise: 5

Newspaper Section: Display Advertising

Using your newspaper and the cheques provided you may go on a $700.00 spending spree. You may purchase anything you wish but you must use all 10 cheques. No cheque may be written for less than $10.00. You must also plan a party for 6 friends and indicate by clipping grocery ads how much is spent on the party. Only one cheque may be written for food. Keep a running balance of money spent on your cheque register. Clip articles of all purchases.

CHEQUE REGISTER

CHEQUE NO.	ARTICLE	COST	BALANCE
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			

SCHOOL BANK OF CANADA CHEQUES

CANADIAN STUDENT
100 EDUCATION STREET
KNOWLEDGEVILLE

SCHOOL BANK OF CANADA
350 LEARNING DRIVE
MATH CITY, CANADA.

Pay to the order of _____ 19_____

_____ $_____

_____ /100 Dollars

_____

CANADIAN STUDENT
100 EDUCATION STREET
KNOWLEDGEVILLE

SCHOOL BANK OF CANADA
350 LEARNING DRIVE
MATH CITY, CANADA.

Pay to the order of _____ 19_____

_____ $_____

/100 Dollars

_____

CANADIAN STUDENT
100 EDUCATION STREET
KNOWLEDGEVILLE

SCHOOL BANK OF CANADA
350 LEARNING DRIVE
MATH CITY, CANADA.

Pay to the order of _____ 19_____

_____ $_____

_____ /100 Dollars

_____

CANADIAN STUDENT
100 EDUCATION STREET
KNOWLEDGEVILLE

SCHOOL BANK OF CANADA
350 LEARNING DRIVE
MATH CITY, CANADA.

Pay to the order of _____ 19_____

_____ $_____

_____ /100 Dollars

_____

CANADIAN STUDENT
100 EDUCATION STREET
KNOWLEDGEVILLE

SCHOOL BANK OF CANADA
350 LEARNING DRIVE
MATH CITY, CANADA.

Pay to the order of _____ 19_____

_____ _____

_____ /100 Dollars

_____

Exercise: 6

Newspaper Section: Display Advertising

Additional Materials: Atlas

1. From your newspaper select airline travel advertisements including prices for three places, one for each of the following distances.

   a) 800-1500 km away

   _____

   b) 1500-5000 km away

   _____

   c) over 5000 km away

   _____

Determine the cost of travel per kilometre to each location. Compare the costs. Explain differences, if any.

Cost to Vacation Spot 1 _____	Cost to Vacation Spot 2 _____	Cost to Vacation Spot 3 _____
Cost / km	Cost / km	Cost / km
_____	_____	_____

2. What is the average cost of travel per kilometre? _____

To the teacher: Set a time limit for this exercise (eg 20-30 minutes). The object of the activity is to see who can spend the most in the allotted time with no mathematical errors in addition.

Exercise: 7

Newspaper Section: Display and Classified Advertising

Lucky you! You have a million dollars to spend, but you must spend as much as possible in the next . . . minutes. You may only buy 2 houses, 3 cars and 5 of any other item, if available. There are no other restrictions on your purchases. Keep a running total of purchases and costs. Indicate the page number on which each item purchased is found.

Continue on reverse if necessary.

Item	Newspaper Page	Number Purchased	Cost	Total
		15		

To the teacher: Use the exercise below as a sample lesson for use with current exchange rates.

Exercise: 8

Newspaper Section: Foreign Exchange Report

Note: This chart indicates the cost in Canadian dollars of buying one unit of foreign currency.

Foreign currencies

MONTREAL (CP) — Friday's foreign exchange nominal selling rates in Canadian funds at 11 a.m. supplied by the Bank of Montreal:

These rates are called nominal because they fluctuate during the day and vary at each bank. x-Fixed monthly rates.

Australia	dollar	1.3450
Austria	shilling	0.0923
Bahamas	dollar	1.1625
Barbados	dollar	0.5820
Belgium	cnv franc	0.040700
Bermuda	dollar	1.1625
Brazil	cruzeiro	0.0215
xBulgaria	lev	1.3939
China	renminbi	0.8230
xColombia	peso	0.0231
xCzechoslovak	crown	0.2350
Denmark	krone	0.2105
E. Caribbean	dollar	0.4330
France	franc	0.2800
Germany	mark	0.6500
Greece	drachma	0.0285
Hong Kong	dollar	0.2350
Hungarian	forint	0.0368
India	rupee	0.1530
Irish	pound	2.4500
Italy	lira	0.001385
Jamaica	dollar	0.6500
Japan	yen	0.005170
Kuwait	dinar	4.3280
Mexico	peso	0.0510
Netherland	guilder	0.5970
N.Z.	dollar	1.1350
Norway	krona	0.2395
xPoland	zloty	0.0389
Portugal	escudo	0.0240
xRomania	leu	0.2572
Saudi Arabia	riyal	0.3470
Spain	peseta	0.01625
Sweden	krona	0.2780
Switzerland	franc	0.7055
Trin-Tob	dollar	0.4850
U.K.	pound	2.7560
U.S.	dollar	1.1592
U.S.S.R.	ruble	1.8149

You have been shopping on your world tour and bought the items listed below. Use the chart to calculate how much was spent in Canadian funds.

Show calculations

1. a A piece of art for 560 francs _____
   $ _____

   b A clock for 32 marks _____
   $ _____

   c A castle for 7,500,000 lira _____
   $ _____

   d A souvenir for 5 dinars _____
   $ _____

   e A British hotel bill of 50 pounds _____
   $ _____

2. How much in total did you spend on your purchases? _____

3. Compare the exchange rates on the chart with current rates. Which has a) increased b)decreased the most? _____
   _____

4 You set yourself a personal limit of $200.00 to spend in each of the following cities. How much would you receive in local currency for each place listed below?

a. London _____
b. Dublin _____
c. Brussels _____
d. Paris _____
e. Cologne _____
f. Berne _____
g. Pisa _____
h. Athens _____
i. Warsaw _____
j. Budapest _____
k. Oslo _____
l. Leningrad _____

Exercise: 9

Newspaper Section: Classified Advertising

Find the average cost of each of the following. Show your calculations for each.

1. A four year old car

2. Rent of a 3 bedroom apartment

3. A used motorcycle

4. A two storey home

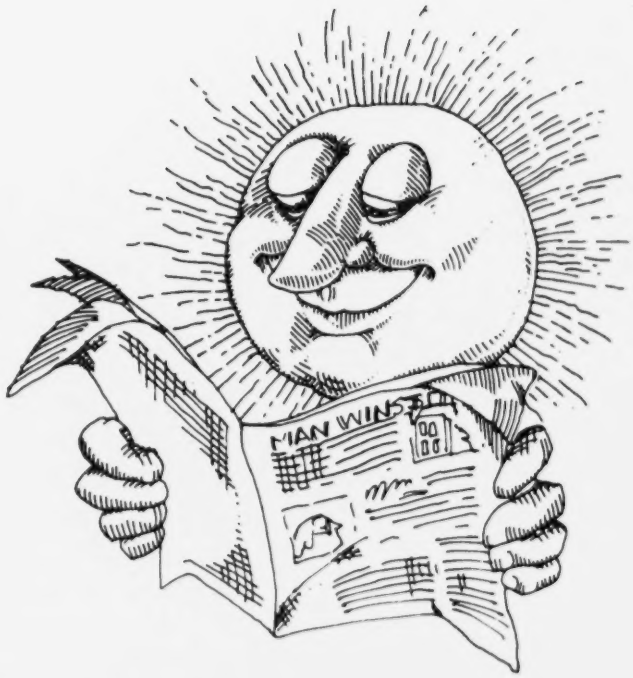
5. Rental rate of a house

6. A used van

Exercise: 10

Newspaper Section: Weather Report

1. From the weather synopsis select three major world cities and do a line graph of high temperatures for each for a period of two weeks.



2. Write a summary weather report for the two week duration. Predict the forecast for the following week. Account for any similarities/differences in temperature among the three cities.

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Exercise: 11

Newspaper Section: Weather Report

1. Select three major cities from the weather synopsis and prepare a double line graph of the high and low temperatures for each city for a period of two weeks.

City 1: .....

City 2: .....

City:3 .....

2. Write a summary weather report to account for the type of differential between day and night temperatures ie. elevation etc. .....

Exercise: 12

Newspaper Section: Business and Finance

1. Using your daily newspaper, prepare a double bar graph to indicate the daily value of gold and silver for the period of one month.

2. Account for the fluctuation (or lack of) for each metal and also account for any differences between the two.

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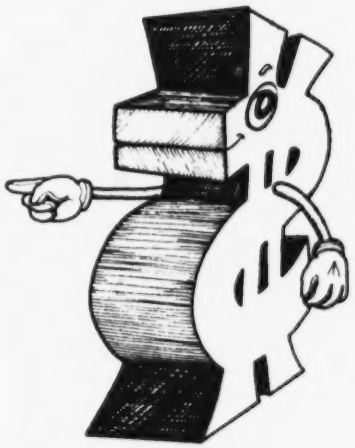
Exercise: 13

Newspaper Section: Stock Exchange

Select two stocks from either the Toronto or New York Stock Exchange. Prepare a double line graph to show gains and/or losses of your selected stocks with an investment of $1,000.00 in each stock for a period of 2 weeks.



Names of Stocks

1) .....

2) .....

Exercise: 14

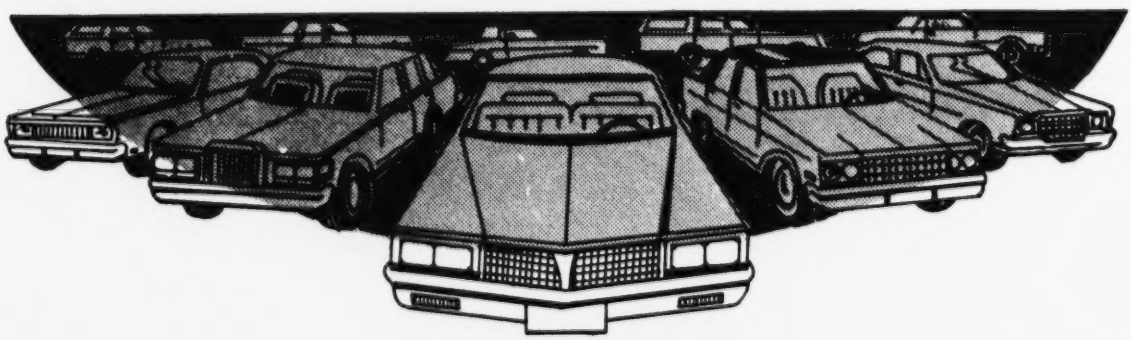
Newspaper Section: Classified Advertising

1. Select a year for a used automobile within 10 years old. On a bar graph show the frequency of sales of different makes for that year.

American Motors | Chrysler | Ford | General Motors | European | Japanese

2. a. State the ratio of North American to foreign used cars for sale. _____

   b. Write this figure as a percentage. _____



Exercise: 15

Newspaper Section: Display Advertising

1. a. Do research to find out the cost of running a full page advertisement in your local newspaper.

   _____

   b. What is the additional cost for colour?

   _____

   c. What is the cost to contract advertisers such as grocery chains and major department stores?

   _____

2. What would be the cost of each of the following:

   a. ¼ page ad in black and white?

   _____

   b. ⅓ page ad in black and white plus 2 colours?

   _____

3. You have $960 in your promotion account.

   a. What is the maximum size ad in black and white that you could run?

   _____

   b. What is the maximum size ad in black and white and red that you could run?

   _____

Exercise: 16

Newspaper Section: Real Estate

1. From your newspaper select a column of real estate listing 10 homes with their prices. Rewrite the price of each home in scientific notation. Mount the column on the reverse side of this page and complete the following chart:

	House Price	Scientific Notation
1.	_____	_____
2.	_____	_____
3.	_____	_____
4.	_____	_____
5.	_____	_____

	House Price	Scientific Notation
6.	_____	_____
7.	_____	_____
8.	_____	_____
9.	_____	_____
10.	_____	_____

2. Rewrite the total cost of the homes in scientific notation.

Exercise: 17

Newspaper Section: Sports

Find golf tournament results in your newspaper. Then answer the following:

1. What was the total prize money?

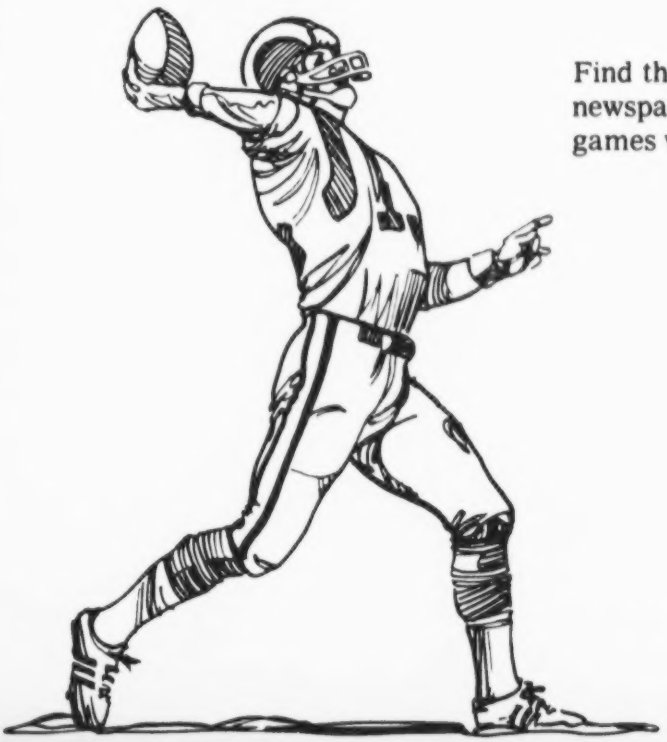
2. What percentage of the entire amount did each of first place and second place finisher receive?

   First .....

   Second .....

Exercise: 18

Newspaper Section: Sports



Find the Canadian Football League standings in your newspaper. Then calculate the percentage number of games won by each team.

To the teacher: Fill in a current credit card interest rate in the space provided before duplicating.

Exercise: 19

Newspaper Section: Display Advertising

1a. Select a product from the newspaper valued at $500.00 or more. What would be the total cost to purchase this item on credit to be paid off in 40 days? Include sales tax, if applicable. The current interest rate is _____% per annum. Clip and mount your article on the reverse side of this page:

Show your calculations:

Answer: _____

b. If you pay $75.00 at the end of the first 30 days and pay off the remainder in 3½ months, what would be the total purchase price?

Show your calculations:

Answer: _____

To the teacher: Use the exercise below as an example for the many additional ads which offer reductions and duplicate for the students.

Exercise: 20

Newspaper Section: Display Advertising

How much is the discount on each of the articles below? Express each amount as a %.

FIGHT THAT COLD AND RUNNY NOSE

	Reg.	Spec.
1. VICKS VAPO-RUB 150l	4.35	2.99
2. ACTIFED SYRUP 100l	2.99	2.49
3. ACTIFED TABLETS 24	3.48	2.75
4. SUDAFED SYRUP 100 ml	3.09	2.39
5. SUDAFED TABLETS 18	2.98	2.29

Article	Discount	Percentage Discount
1. _____	_____	_____
2. _____	_____	_____
3. _____	_____	_____
4. _____	_____	_____
5. _____	_____	_____

Exercise: 21

Newspaper Section: Display Advertising

1. Calculate the sale price of each of the following pairs of jeans:

a. $42.95 _____

b. $38.95 _____

c. $34.50 _____

d. $46.80 _____

e. $35.89 _____

f. $41.24 _____

2. Find other display advertisements for clothing offered at a discount. What is the percentage discount and sale price for each item offered in the ad? Find at least 10 articles in one or more ads. Mount your ads to the reverse side of this sheet and show your calculations.

_____

_____

_____

_____

_____

_____

Exercise: 22

Newspaper Section: Display Advertising

1. Listed below are the regular prices of a number of gold chains. Calculate the sale price of each chain using the information in the jeweller's advertisement.

a. $18.95 _____

b. $32.00 _____

c. $34.95 _____

d. $15.89 _____

e. $27.38 _____

f. $54.65 _____

g. $103.98 _____

h. $41.22 _____

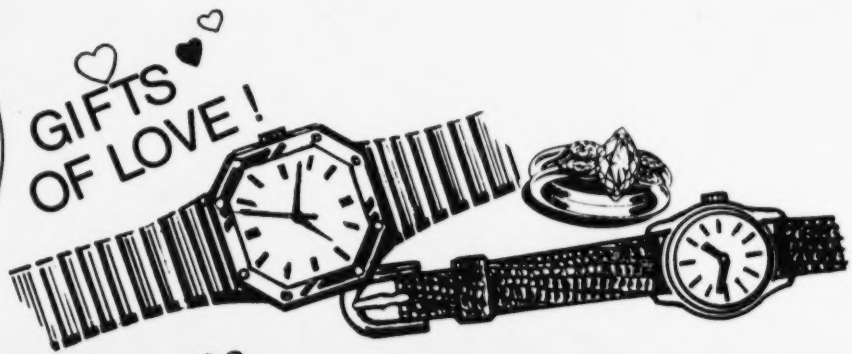
i. $89.98 _____

j. $37.72 _____

k. $14.99 _____

l. $27.49 _____

2. Find a display ad in your newspaper for jewellery on sale which shows both the regular prices and the discount prices. Calculate the discount as a percentage off the original price.



To the teacher: Fill in the interest below at current rate.

Exercise: 23

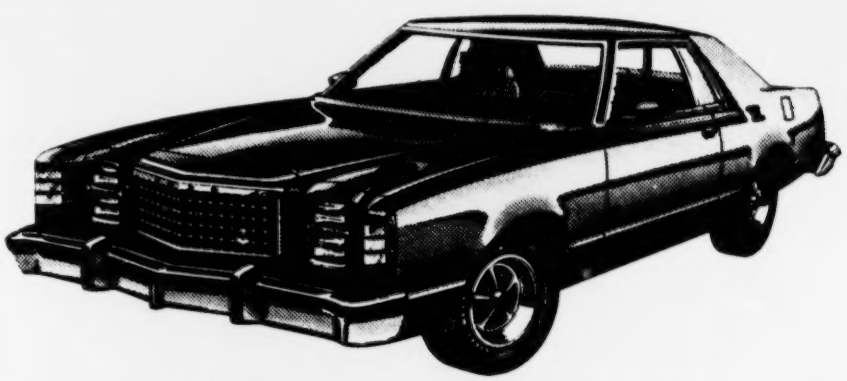
Newspaper Section: Display Advertising

You have saved $5,000.00 as down payment on a new car. Select one from newspaper advertisements. Calculate how much your monthly payments would be to pay off the loan in two years if the interest rate is ____% per year compounded annually. Show your calculations.

Paste advertisement here.

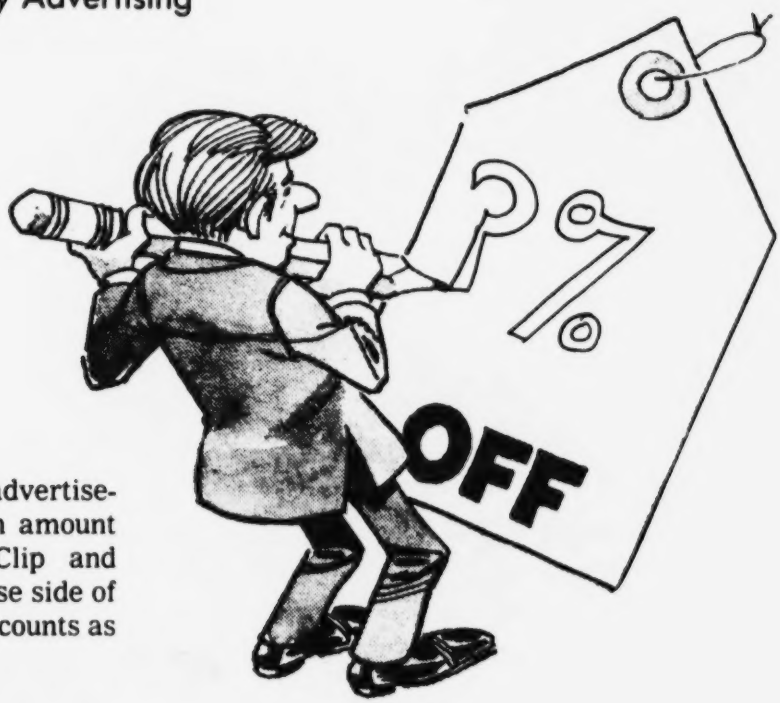
Calculations:

Answer: _____



Exercise: 24

Newspaper Section: Display Advertising



Select several display advertisements which offer a given amount off the regular price. Clip and mount the ads to the reverse side of this page. Calculate the discounts as percentages.

Original Price	Discount	Percentage Discount
.....	.....	.....
.....	.....	.....
.....	.....	.....
.....	.....	.....
.....	.....	.....
.....	.....	.....
.....	.....	.....
.....	.....	.....

Exercise: 25

Newspaper Section: Total Newspaper

1. What percentage of the total newspaper would you estimate is devoted to each of the following:

a. news _____ d. classified advertising _____

b. sports _____ e. entertainment _____

c. display advertising _____ f. business _____

2. After making your estimations calculate the space allotted to each of the sections above. Show your calculations.

	Actual Space	Actual Percentage
a.	_____	_____
b.	_____	_____
c.	_____	_____
d.	_____	_____
e.	_____	_____
f.	_____	_____

How close were you in your estimations?

Exercise: 26

Newspaper Section: Business and Finance

1. Do research in your newspaper to find the current exchange rate of Canadian and American funds.

2. What is the % difference? _____

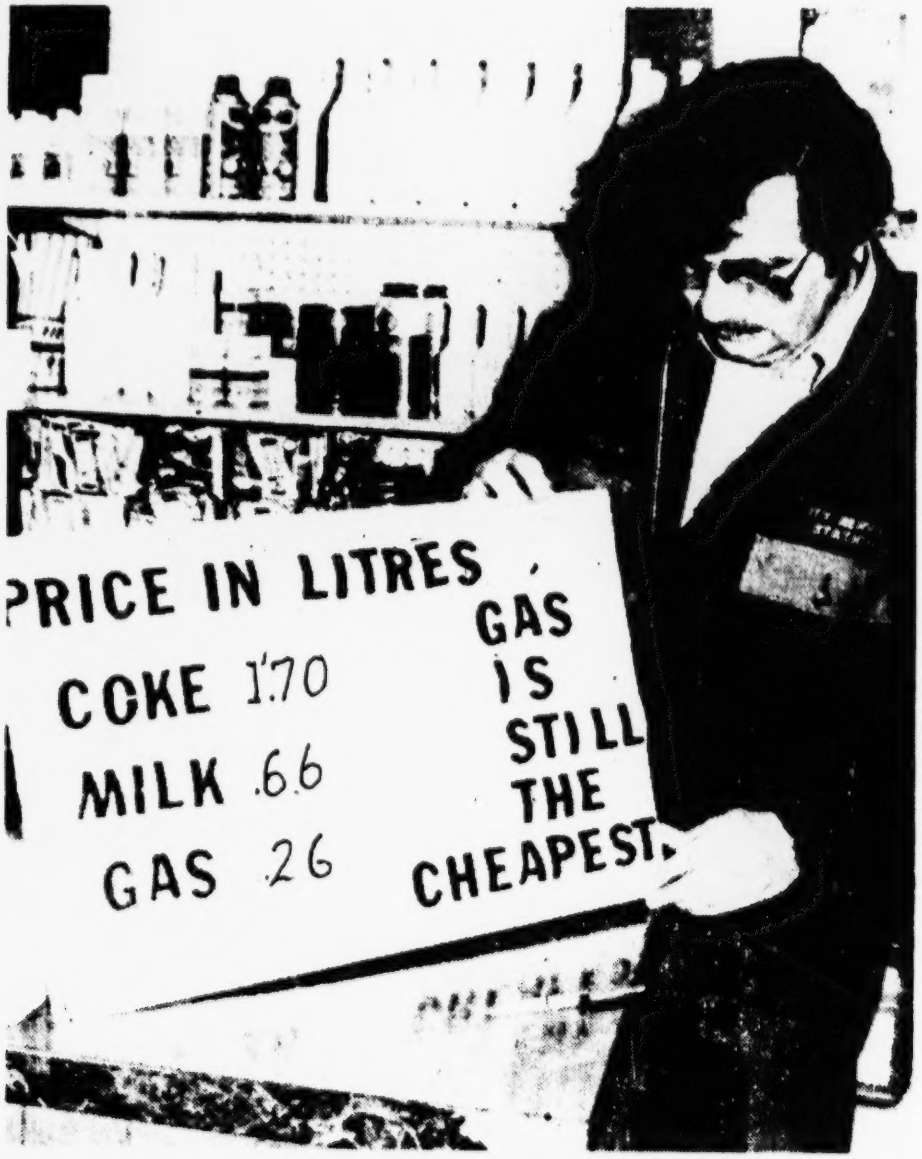
3. How much would each of the following amounts of Canadian money be worth in the United States?

   a. $5.00 _____
   b. $10.00 _____
   c. $10.00 _____
   d. $7.50 _____
   e. $75.00 _____
   f. $9.65 _____
   g. $37.00 _____
   h. $1,135.00 _____
   i. $62.45 _____
   j. $94.09 _____

4. How much would each of the following amounts of American money be worth in Canada?

   a. $3.00 _____
   b. $525.00 _____
   c. $6.93 _____
   d. $4.85 _____
   e. $2,052.00 _____
   f. $703.00 _____
   g. $ .98 _____
   h. $11.52 _____
   i. $47.37 _____
   j. $64.00 _____

Exercise: 27



GAS IS CHEAP

Robert Cantwell, a Charlottetown service station owner, thinks he can make a point with this sign in which he compares the price of gas with other liquid consumer products.

1. Do research to find out the current cost per litre of the liquids in the photo.

   Coke _____ Milk _____ Gas _____

2. What is the percentage increase or decrease in the price of each?

   Coke _____ Milk _____ Gas _____

3. Find newspaper advertisments giving the prices of at least three other liquids. Calculate the cost per litre of each.

To the teacher: After having students complete the exercise below, use the same procedure with current hockey league standings. Students may be interested in junior hockey standings as well.

Exercise: 28

Newspaper Section: Sports

1. Calculate the percentage of games won by Toronto, Calgary and Vancouver.

_____

_____

2a. Find the ratio of points scored to points against in the NHL Smythe Division.

_____

b. What is the percentage of points for to points against in the NHL Smythe Division?

_____

NHL

WALES CONFERENCE

	GP	W	L	T	F	A	P
Norris Division							
Los Angeles	32	17	8	7	243	211	72
Montreal	30	18	6	6	232	163	66
Pittsburgh	18	28	8	1	199	244	44
Detroit	16	28	11	1	174	228	43
Hartford	15	27	13	2	210	262	43
Adams Division							
Buffalo	54	27	10	17	217	162	71
Minnesota	55	25	16	14	195	172	64
Boston	55	24	22	9	215	197	57
Quebec	55	16	26	13	195	231	45
Toronto	55	17	28	10	215	255	44
CAMPBELL CONFERENCE							
Patrick Division							
NY Islanders	57	34	14	9	258	187	77
Philadelphia	55	30	16	9	217	167	69
Calgary	56	25	20	9	212	202	61
Washington	55	19	22	9	194	203	52
NY Rangers	55	20	26	9	207	217	49
Smythe Division							
St. Louis	55	33	12	10	250	190	76
Vancouver	55	21	18	16	205	192	58
Chicago	56	25	24	7	220	218	57
Edmonton	54	17	28	9	215	234	43
Colorado	54	17	28	9	185	230	43
Winnipeg	55	6	39	10	169	262	22

c. What is the average number of games played in the Norris Division?

_____

d. What is the average number of tie games in the Patrick Division?

_____

Exercise: 29

Newspaper Section: Display Advertising

1. Locate newspaper advertisements for two different types of fencing material. Calculate the cost of fencing a yard 30 m x 10 m with each material. Clip and mount your ads to the reverse side of this page. Show your calculations.

Material 1:

_____

Cost:

_____

Material 2:

_____

Cost:

_____

2. Compare the total cost of each. Which would you then select for your home and why?

_____

_____

Exercise: 30

Newspaper Section: Real Estate, Classified

1a. Find 2 or 3 real estate advertisements stating the cost of the home and the approximate area. Paste these in the spaces below.

b. Calculate the cost per square metre (or square foot).

c. Do a comparison and account for differences (ie. size, features, location etc.) Show your calculations below.

House 1	House 2	House 3
Comparison:		

Exercise: 31

Newspaper Section: Homes

1. Find a floor plan of a model home in your newspaper. Calculate the area of the home in square metres (or square feet). Clip and mount your plan to the reverse side of the sheet.

Calculations:

2. Find a display advertisement stating current cost of carpeting. State the page number on which the ad is located. Then calculate the cost of carpeting the livingroom, and bedrooms of the home selected in question one.

Carpet Cost: _____
Page Number: _____

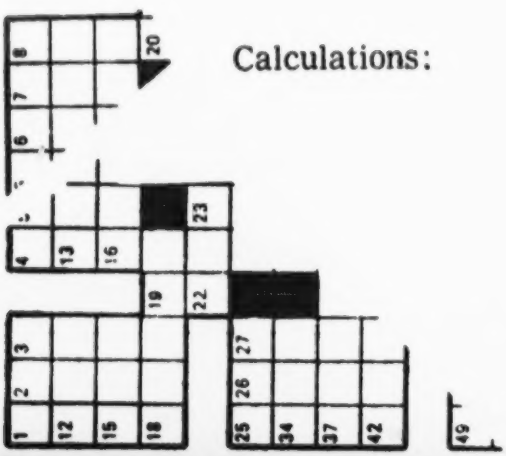
Calculations:

Exercise: 32

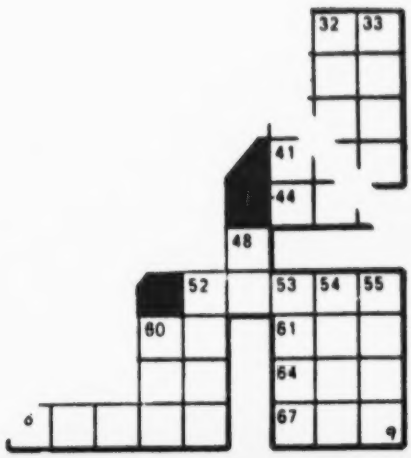
Newspaper Section: Entertainment

Find the crossword puzzle in your newspaper. Clip and mount it below. Calculate the black area and express the figure as a percentage.

Paste the crossword here.



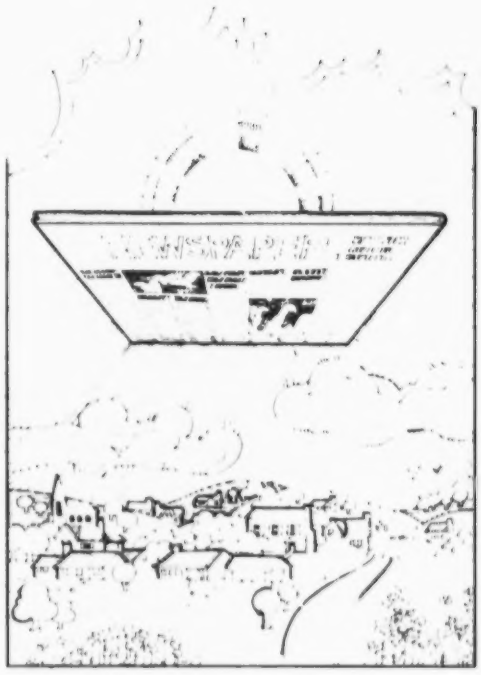
Calculations:



Exercise: 33

Newspaper Section: First section

1. Estimate what percentage of space in the first section of your newspaper is allotted to each of the following:



a. local news

_____

b. provincial news (state)

_____

c. national news

_____

d. international news

_____

Then measure to determine actual percentages.

Show your calculations

Results: a. _____
b. _____
c. _____
d. _____

To the teacher: The class should be divided into groups of 4, each group having a different newspaper from a one-week period.

Exercise: 34

Newspaper section: Total Newspaper

1. Estimate the amount of space which is used for news, features, sports, business, etc. and the amount of space that is sold for advertising (display and classified) in your group's newspaper. Then calculate the actual amounts of space alloted to each. Express these two amounts as percentages.

Show all calculations

2. When all groups have finished, complete the chart below:

	% News	% Advertising
Group 1		
Group 2		
Group 3		
Group 4		
Group 5		
Group 6		
Group 7		
Group 8		

3. What is the average percentage of news and advertising in your community newspaper? _____

To the teacher: Use the exercise below as a sample lesson for use with current listings.

Exercise: 35

Newspaper Section: Display Advertising

CASH

FOR YOUR GOLD & SILVER COINS & JEWELLERY

GOLD COINS

Canadian

$5	1912	240.00
	1913	240.00
	1914	525.00
$10	1912	540.00
	1913	540.00
	1914	540.00
$20	1967	345.00
$100	1976	14k 150.00
$100	1976	22k 330.00
$100	1977	345.00
$100	1978	330.00
$100	1979	330.00

Newfoundland
$2 Gold coin 150.00

U.S. Gold Coins

$1.00	125.00
$2.50	135.00
$3.00	P.O.R.
$4.00	P.O.R.
$5.00	160.00
$10.00	235.00
$20.00	585.00

British Gold Coins

£5	360.00
£2	260.00
Sovereign	150.00
½ Sovereign	80.00

We also buy all foreign gold coins, based on daily gold quotations. **Prices subject to change without notice.**

COINS MUST BE EF OR BETTER

SILVER COINS

CANADIAN

10¢	1966 and prior	WE PAY .80
	1967	WE PAY .60
	1968 (silver)	WE PAY .50
25¢	1966 and prior	WE PAY 2.00
	1967	WE PAY 1.50
	1968 (silver)	WE PAY 1.25
50¢	1967 and prior	WE PAY 4.00
$1	1967 and prior	WE PAY 10.50

UNITED STATES

10¢	1964 and prior	WE PAY 1.20
25¢	1964 and prior	WE PAY 3.00
50¢	1964 and prior	WE PAY 6.00
$1	1935 and prior	WE PAY 12.00

We buy all coins, sets and medallions struck by the Franklin and other mints.

We pay IMMEDIATE CASH.

1. You have one of each of the 1967 coins listed. How much are your coins worth:

   a. at face value? _____

   b. at collector value? _____

2. State the difference in value as a percentage increase of face value.

   _____

3. You have $2.05 in American coinage 1964 and prior. State the type and number of coins in your collection at its face value.

   _____

   _____

   _____

   What is the highest amount you could receive for your coins?

   _____

Exercise: 36

Runner sets record for crossing U.S.

NEW YORK (AP) — Frank Giannino broke the record for a cross country run Saturday by nearly two days, completing 3,103 miles in 46 days, eight hours and 36 minutes.

His secret? Rotating six pairs of running shoes and consuming milkshakes at crucial times.

The 28-year-old owner of a jogging equipment store in New Paltz, N.Y., crossed the finish line halfway down the Brooklyn Bridge at 11 a.m. He was greeted by well-wishers and Brooklyn borough president Howard Golden.

A little worse for wear — Giannino's 140-pound frame lost eight pounds during the marathon that took him through 37 major cities and 12 states — the young athlete grinned.

He dedicated the trans-continental run to United Way, a national fund-raising organization that donates money to 1,200 health and social service agencies.

Giannino, who has worked as a recreational therapist for the Association for Retarded Children in Ellenville, N.Y., said he wanted his run to show the country that "you can achieve any goal if you have the desire."

Heaving a small, plastic bottle of Pacific water across the bridge into the New York Harbor from the bridge's pedestrian walkway, Giannino said: "This is to symbolize that we, as a nation, can stay together. Let's have a goal. Let's stay a united nation."

When the bottle failed to land in the water and instead bounced on the extreme right lane of the bridge, an undaunted Giannino said: "At least the evaporation made it."

Read the article about the long distance runner. Then answer the related questions.

1. What was the average number of miles that Frank Giannino completed each day?

_____

2. If each pair of running shoes was worn an equal amount of time,

a) how many miles did each pair cover?

_____

b) how long did he wear each pair of shoes?

_____

Exercise: 37

Read the article below. Then answer the related questions.

Canadian skier wins gold medal

MORIN HEIGHTS, Que. (CP) — Canada's Thor Vekstrom captured the gold medal Wednesday in the opening 30-kilometre events at the first World Masters cross-country ski championships.

Originally from Sweden, the 51-year-old Vekstrom completed the distance in two hours, four minutes and five seconds to win the event in the 45-54 age group.

Another Canadian, Penti Thil of Sault Ste. Marie, Ont., finished 25 seconds behind Vekstrom to win the silver medal. Norway's Eili Hegen placed third.

More than 120 participants — 35 years old and over — from Europe and North America, many of whom are former Olympic and North American champions, are entered.

Despite a severe lack of snow, the ski trails held up well and the opening-day races — all of which were 30 kilometres — were held under sunny skies.

Gjermund Eggen of Norway, who won three gold medals at the 1966 world championships, took first place in the 35-39 age group. He completed the distance in 1:52:09.

Two Canadians — Frank Bartik of Vancouver and Jan Hansen of Quebec — finished second and third respectively behind Eggen.

Norway's Jardar Sandstad won the 40-44 age group with a time of 1:43:15.

Edvard Nilsen won another gold for Norway in the over-65 class with a time of 2:13:13.

1. What was Thor Vekstrom's speed in kilometres per hour?

_____

2. What was the average time of the four first-place winners?

_____

3. What was Penti Thil's speed in kilometres per hour?

_____

Exercise: 38

Read the article below. Then answer the related questions.

Rising expectations

Balloonist hopes to set new altitude mark

WINNIPEG (CP) — No one is sure what happens to the human body when it's out in the open at 12,800 metres altitude. Bill Cudney, who plans to float up there next month, isn't sure he wants to know.

A year ago, the Winnipeg balloonist took his hot air balloon up from a farm field near Starbuck in southern Manitoba to an altitude of 10,383.61 metres, breaking a long-held Canadian record.

Next month, when a high pressure system brings in cold air and pushes out the clouds, Cudney plans to rise to 12,800 metres, which would be a world altitude record.

The publicity gained from such record-breaking attempts hasn't hurt business for Balloon Adventures, an enterprise in which Cudney takes passengers on champagne floats over Winnipeg.

But he says his attempt next month at the world altitude record won't make him rich and famous.

"I just like the challenge of doing it, of pushing yourself that little bit further," the 32-year-old father of two said in a recent interview.

Three years ago, Cudney, who was born in Georgetown, Ont., got tired of taking people for balloon rides across the city and decided to make an attempt at breaking the Canadian altitude record.

He had spent a year researching altitude flying. Doctors and other balloonists, who say participants should stay under 2,000 metres, warned Cudney. But nothing prepared him for the flight.

A handful of well-wishers watched as Cudney pulled on protective clothing and gear, including a parachute, which weighed 114 kilograms.

He climbed into the gondola below his 2,310-cubic metre polyester balloon and started his ascent.

Flying on a typically cold January afternoon, when hot air rises easily, Cudney cranked his gas burners and dropped the gondola weight as he watched the altimeter quickly tick off altitude levels.

"It's like running a marathon and there is that last few miles they call the wall," Cudney said. "That's what it was like. There was a wall at 10,000 feet, and at 20,000 feet, then 25,000.

"It was like the guys who went in the first automobiles," he added. "They thought that if they went past 50 miles an hour their heads would blow up. That's sort of what you think."

As he kept getting higher, the air temperature dropped. His oxygen line, necessary above 5,000 metres, started icing up, suffocating him until he could clear it.

The thin air made it harder to concentrate. He was tired and strangely giddy as he reached 10,000 metres.

"At altitude, you lose grasp of reality," he said. "When you are up there, you think it is great. You start partying, talking to your ground crew and telling them to come on up."

Nausea, dizziness and fatigue kept it all in check and Cudney opted to stop climbing as soon as he broke the Canadian record. He turned down the burners and started to descend — a hellish ride he doesn't ever want to repeat.

He started feeling sick when the burners flamed out and wouldn't re-ignite. The balloon started spinning out of control and Cudney fought to maintain his composure.

At roughly 2,750 metres, he finally got the burners going, slowly the descent of the balloon. He landed it safely in another farm field near Vita and spent the rest of the day in hospital.

It cost Cudney $5,000 to break the Canadian record. When he attempts to break the world record of 12,300 metres, his costs could exceed $15,000, he says, adding his wife Anne isn't terribly happy.

"She's not really thrilled about me doing it again," he said. "But she knows I'll be safe, and that the equipment is in good shape."

1. What was the cost per metre to break the Canadian altitude record?

_____

2. What will be the cost per metre to break the World altitude record of 12,300 metres?

_____

3. Express the difference as a percentage.

_____

Exercise: 39

Read the article about the cyclists below:

Pair finally home after 45-day 'joke' on bikes

By BARRY RIES
Record Staff Writer

Jeff Klinkman said it all started out as a joke.

"There was really no reason for it. We just decided to do something different for a change."

That "something different" turned out to be a 2,750-mile bicycle trip that started July 2 and ended when Jeff and his friend John Schiedel, both 18, returned home Friday night.

Their trip took them by plane to Vancouver and back the hard way — mountains, prairies, hills and headwinds — pedalling all the way.

"The mountains were slow, but northern Ontario was harder — up and down, up and down. The grades are a lot steeper than in the mountains," Jeff said Saturday.

Even the prairies weren't that great for bicycling, though. Jeff said the only time he ever questioned his reason for the trip was after fighting headwinds for four days in a row and having to use low gear even for going down hill.

"You feel like you're putting out so much for so little, and you ask yourself why."

Jeff, who lives in Kitchener, and John, from Cambridge, met at a summer camp they both worked at in Bancroft. They roomed together and got along fine, John said.

The bicycle trip was "a good way to find out if we're really friends."

The trip took 45 days, 35 of which were spent actually travelling. Jeff said they averaged ■ miles a day, ranging from a high of 140 to a low of 10.

The 10-mile-day wasn't in the mountains or northern Ontario, though. It was from one side of Winnipeg to another as they visited relatives.

When asked which part they enjoyed the most, they both said, without hesitation, "the mountains."

John had been out west 10 years ago with his family, but it was Jeff's first look at western Canada.

"You can hide a bike in a lot of places," Jeff said.

For food, they drank a lot of juice, had a small box of cereal for breakfast, sandwiches for lunch, and beans or macaroni for supper, Jeff said.

A typical day on the prairies would see them starting off at 7:30 a.m. and setting up camp by 4 or 5 p.m.

While the occasional driver "thought he deserved the whole road," they found most people friendly and helpful. They took a stove with them, but "it was a pain to cook," John said, so they were quite happy to have people give them food, even leftovers.

Jeff Klinkman (left) and John Schiedel after their trip.
Record Photo

How many miles a day did the boys average on the days that they travelled?

To the teacher: The Scavenger hunt should be given a set time limit (eg. 20 minutes) to encourage speed in computational skills.

Exercise: 40

Newspaper Section: Total

Mathematical Scavenger Hunt

Try to find as many of the following as you can in the time allotted by your teacher. Clip the articles and lay them in the appropriate space when you have found them.

1. A number greater than 65 x 54		
	2. A number equal to $\frac{(4 \times 9) - 2^2}{4}$	3. The smallest prime factor of 105
4. A number greater than (856-437) but smaller than (3059-1364)		5. The area of the first section of the newspaper
	6. The average number of pages in a newspaper section	
8. $10^3 <$ A number $< 10^4$		7. A number smaller than 655 ÷ 55 but greater than 1893 ÷ 631
	9. The perimeter of the editorial cartoon, to the nearest cm or in.	
Free Space		10. The largest prime factor of 231